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48-30

22 December 1948

MEMORANDUM TO THE DIRECTOR

Subject: Communications Support for OSO Future Program

I. INTRODUCTION

A. The Communications Division has made a review of its present position and assessed its requirements as a result of a tabulation of OSO operational commitments, present, pending and future as outlined in COPS memorandum of 8 November 1948 (Attachment A).

B. It must be understood that the development of OSO operations is directly dependent upon the adequate functioning of the Communications Division. Therefore, a thorough re-examination of the Communications T/O and facilities is essential at this time.

C. Section II which follows lists considerations essential to providing satisfactory communications to intelligence operations. Sections III, IV, and V outline a program together with personnel and equipment requirements to meet present, pending and future commitments. In considering personnel figures given, it should be noted that supply considerations have been completely omitted.

D. The following program is recommended for your close study and early approval.

E. As the first step in implementing this program, pending formulation of a revised T/O, it is recommended that approval be granted to recruit personnel to bring the Communications Division to the full strength of its T/O of [redacted] personnel previously authorized. These positions can be recruited against immediately, since jobs have been established on this T/O with the Civil Service Commission. This will permit the quickest possible action towards meeting requirements as outlined.

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SECTION II. SITUATION

A. PRESENT STATUS OF THE COMMUNICATIONS DIVISION

The Communications Division is now actively serving all offices of CIA, but is operating under a table of organization cut back from that represented by the approved jobs. This table of organization has never been filled by personnel actually on duty, and for some months, the total number of personnel has been steadily decreasing. For example, in July 1948, there were [redacted] people on duty as compared to [redacted] on duty at this time, with an authorized table of organization of [redacted] slots, departmental and overseas. The present table of organization, in certain key functions, fails to meet the situation which has arisen due to the ever increasing demands of OSO as well as the expanding requirements made of the Division by other offices in CIA. As a result, the Division is not able to meet the demands now being made on it. Some existing commitments are not being met adequately and some few are not being met at all. As a consequence, it has been necessary:

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1. To close or suspend the operation of certain radio stations in Latin America and the Middle East. [redacted]

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2. To allow the communications complement [redacted] to decline. Of nine radiomen on the table of organization, seven are on duty, but six of these are due to return to the U. S. in the summer of 1949 and there is only one replacement in sight.

3. To permit the personnel on duty in the Far East to remain inadequate.

4. To avoid all commitments for TDY on the part of communications officers to coordinate and lay on covert operations in the Far East.

5. To suspend field inspection and coordination trips on the part of crypto control, radio, and engineering officers.

6. To assign additional duties and responsibilities to staff officers to such an extent that it is physically impossible for them to handle the increased work.

7. To greatly reduce the educational briefing program for OSO operational personnel who are not normally scheduled for the regular communications training courses, but who should have an understanding of covert communications problems and methods.

8. To reduce the liaison functions with State, Army, and Navy Departments on crypto and electronic developments and with the Research and Development Board on electronic development.

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9. To reduce the crypto development program to the barest minimum.

10. To undertake only the highest priority projects for development of electronic apparatus.

11. To greatly reduce any extensive future planning in all fields of communications including disaster planning, etc.

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B. PRESENT COMMITMENTS:

1. Commitments to OSO: The commitment to OSO includes serving over 25X1 separate OSO staff crypto links of all degrees of communications cover. This involves the processing of over 400,000 groups of crypto traffic a month. In addition there are functions involving electronic and cryptographic assistance for activities not closely connected with normal OSO operations. Major items in this category are the continuation of the Latin American and Middle Eastern radio nets.

2. Services to CIA, NON-OSO Offices:

a. The commitment of the Communications Division to OO/C involves the establishment, maintenance, and control of cryptographic 25X1 communications for proposed OO/C domestic stations, five of which are now in operation. This commitment necessitates arranging for traffic routing, installation, engineering, and maintenance of equipment, provision of secure cryptographic devices and systems, the training of OO/C personnel in cryptography and communications security, and the security control of all cryptographic traffic exchanged on OO/C cryptographic links.

b. The present commitment to OO/FBIB, which includes general engineering, consultation, special laboratory projects, and the installation, engineering and maintenance of equipment, plus assistance in traffic routing, is expected to be increased. A memorandum is now being prepared for submission to the Director for approval which requests establishing 25X1 cryptographic communications between FBIB and their field offices. This will necessitate the provision of cryptographic systems and new instructional documents for their operation, plus the training of FBIB field personnel in cryptography and communications security. This training program for FBIB will require considerable time because of

the geography involved and the fact that the personnel to be trained in most cases are already in the field. The provision of the cryptographic communications will also necessitate new arrangements for the routing of the cryptographic traffic, the installation, maintenance of cryptographic devices and equipment, and the security control of all the cryptographic traffic. It will also increase the work of the Washington Signal Center.

c. The commitment to the Director and the Director's Staff for domestic Inter-Office and Inter-Agency communications has expanded and now involves six local cryptographic links with approximately three more anticipated within the next six months. In conjunction with this is the provision of cryptographic systems, installations, engineering and maintenance of equipment, and the training of personnel to operate the systems and devices.

d. The commitment to Personnel, Supply, etc. for handling all domestic plain text telegrams.

e. The commitments to be made to OPC are still in the planning stages, and will be the subject of a subsequent memorandum. It is known that they will call for additional training facilities in radio, cryptography, and sound and surveillance, and additional signal center services to an extent as yet unknown. Certain services have already been provided such as the [redacted] Project which requires engineering services, and the Washington Signal Center has also been providing OPC with limited services.

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C. CONDITIONS

1. Special Conditions: From the Communications point of view, all operational plans present several special circumstances requiring special provisions:

a. The areas of activity are widely scattered and nationalities and languages are numerous and the adjacent safe areas are both scattered and uncertain. It is clear, therefore, that communications will be called upon:

(1) To provide a relatively large number of bases in scattered, and not altogether predictable locations. To meet this demand, it is proposed as soon as personnel becomes available to initiate a combined program of best guesses on safe areas for bases plus airborne bases available for unpredictable locations.

(2) To provide about four standard types of radio stations, ranging in size from one type useful for a large and secure agent station (redoubt or super-maquis conditions) or small staff station, up to a type suitable for small agent controlled base.

(3) To provide an unusually extensive net for staff communications.

(4) To provide a large volume of cryptographic systems, some suitable for staff communications and others of a highly specialized nature which will be appropriate for the many different types of operations and which can be securely issued to either controlled or non-controlled groups. These special systems and their related operating instructions must be hand-tailored to meet the security requirements of each particular operation and must be translated into appropriate languages, with language Conversion Tables prepared when necessary.

(5) To lay on the groundwork for possible manufacture of cryptographic material if present sources of supply are cut off.

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(8) To develop special electronic equipment which would be applicable to highly special needs for which it would be used in either agent or staff communications.

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b. The distances over which clandestine communications will be maintained will normally be at least twice the distances handled by agent type equipment in World War II. We must, therefore, design new equipment. This condition has been anticipated and at least 25% of the designs have been completed and some of the new units are in production.

c. Very large proportions of the proposed circuits are to be activated only after an indefinite period of time and many are to be operated by operators who cannot be directly trained by us and often not even briefed directly. These factors add enormously to both the importance of training, briefing, and coordination and the difficulty of these activities. No steps have so far been taken to meet this situation.

2. Factors Governing Establishment of Intelligence Communications:

a. Each radio station must be fully staffed not only by a sufficient number of radio operator-technicians who can cover all circuits and contacts, including emergency schedules, but by a sufficient number of maintenance personnel.

b. Sufficient electronic equipment must be stock-piled to be readily available for transport to all radio stations. This includes spare parts, equipment, and accessories (the latter being the most essential and most labor consuming), as well as complete sets of all items.

c. All electronic equipment that is received must be thoroughly tested, and modified when necessary, so that it will adequately meet the specific needs and conditions under which it will be issued and used.

d. The time required for the training of radio operator-technicians for staff communications work is an important factor. Experienced and competent amateur radio operators can be trained on an average of from six months to one year. Former military and commercial operators require more training, while a raw recruit with no experience but with the proper aptitude will require one to two years of training, usually for security reasons, in segregated groups. After school training is completed, on-the-job training up to one year is necessary before the operator can handle his own station. After a radio operator has received full training and several months practical experience, it will require approximately two months for him to become familiar with the basic type signal plans employed for the various projects.

e. Agent radio training must generally, for security reasons, be given individually. The difficulties of such training are increased by the lack of previous experience on the part of the trainee or the lack of aptitude. The average time needed for adequate agent radio training is one year.

f. Each agent signal plan must be a hand-tailored job that fits the specific requirements of an operation. The complexity or simplicity of the signal plan is dependent on the type of operation, the security factors involved, and the personnel who will operate the agent radio. The approximate time required for preparing a special signal plan is two weeks for plans for routine operations, and up to six months for operations with complex or remote controls.

g. To develop and test a secure cryptographic system suitable for agent use requires an average of six months of work by a staff of cryptographers and crypto aides. After such a system has been thoroughly tested and found suitable for issue, complete instructions for its basic operation must be written. Before a system is assigned for use, a specific communications plan giving detailed instructions to make the system adaptable to a specific operation, must be prepared. The writing and testing of these related instructions require the services of cryptographic control officers and aides who are familiar with the specific operation for which it is to be issued.

h. All crypto traffic for both staff and agent communications must be analyzed to prevent any violations and stereotypes which might compromise or endanger a particular operation or the overall cryptographic security or traffic pattern. Due to the many

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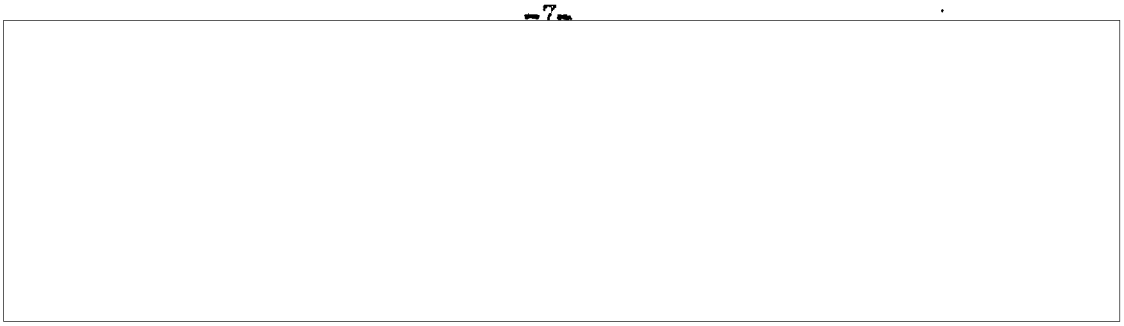

k. A large stockpile of cryptographic systems and related instructions must be readily available for issue. Further, cryptographic material must be stored in safe locations where it will be readily accessible for issue in the event of an emergency or sudden activation of either agent or staff communications. An exact copy (reserve) of all material held by the field must be stored at headquarters or elsewhere so that it can be quickly transferred to a new base if the base is forced for security reasons to destroy their original copies.

l. In the cryptographic training of personnel who will work with agent systems, the amount of time required is dependent upon the aptitude of the personnel and on the complexities of the cryptographic patterns of the communications plan which is being used. All agent instruction or instruction of personnel who will operate the base end of an agent circuit must be given individually. Each requires the full-time services of a cryptographic instructor for a period of from four to twelve weeks.

m. To train an individual to handle staff cryptographic communications requires approximately four to eight weeks. For security reasons, this training must, in most cases, be given individually as the cryptographic pattern and the system is dependent on the particular operation. Personnel of one CIA office must, in general, be trained separately from personnel trained for another office, both for security reasons and differences in basic procedures.

n. It requires approximately 15 months before an inexperienced code clerk can actually become competent in all handling of signal center activities. By "competent" is meant a thorough knowledge of procedures and activities plus the ability to operate complex systems accurately with a high degree of speed.

The average number of groups of cipher traffic which can be processed by a code clerk during an eight-hour shift is 1,000 to 1,500 for headquarters, large base installation, and from 1,500 to 2,000 for a small overseas installation. The average for the larger signal centers is lower because of the many different systems usually used by the signal center and time required to verify details pertaining to the circuit to avoid inadvertent compromise of the installation. It is possible for an outstanding code clerk to process 2,500 to 3,000 groups but it is not possible for him to keep up the pace for a long period of time. To operate a twenty-four hour shift in a signal center requires a minimum of four code clerks for each position.

o. Different handling and processing arrangements must be made in signal centers to segregate staff communications traffic from agent communications traffic.

III. PROGRAM

The proposed Communications Division Program for meeting OSO requirements appears in more detail in a Practical Calendar in Section VII. In brief, it is to meet the "Immediate" demands of OSO by June, 1950 on a skeleton basis, and to fill out this skeleton to a point of safety by January 1952, while also laying the groundwork for meeting the "Pending" and "Future" needs of OSO by January 1952.

To do this, preparations should be instituted to preserve cipher security control, signal center service, equipment development, and radio coordination over the expanding work load, while enlarging the radio facilities by strengthening the present [redacted] base, and by a ring of radio stations around the Mediterranean and Atlantic sides of Europe ([redacted] to replace the [redacted] base in case of evacuation, and instituting coordinating (i.e. planning and organizing) missions, plus training missions where required, [redacted] also to give such support and provide such facilities in the Far East as that very fluid theater may demand at such time as any personnel is available for it.

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IV. PERSONNEL REQUIREMENTS

A. MOST IMMEDIATE

Personnel Selection

Selection of specialized radio personnel for the Communications Division is an unusual problem in that Communications demands special qualifications of its radio personnel over and above the usual qualifications for radio operators and technicians. In addition, there seems to be no concentrated source of this type of personnel in the U. S., the sources being scattered in small groups in out-of-the way towns and cities. These facts necessitate a tremendous effort to be made in locating the personnel suitable for assignment to a Communications slot.

Required for Personnel Selection:

	Add'l. No. Required	Present T/O
Officers	3	(none)
Secretary	1	(none)

This includes one officer in charge who will be totally responsible for development of methods of selection, policies concerning the technical selection of men, placement of personnel procured, reassignment of overseas returnees, periodic determination of future requirements, and maintenance of proper liaison with the Personnel Division through the correct channels.

The other two officers will assist the officer in charge of Personnel Selection in carrying out his responsibilities plus assuming the larger part of the travel involved in selection of personnel, i.e., technical interviews and administration of examinations.

The secretary must be an efficient clerk-stenographer with additional administrative capabilities enabling her to have a firm grasp of the Personnel Selection situation in the absence of all of the above officers.

B. IMMEDIATE (1949)

25X1 1. [redacted] Base Station

25X1 To provide [redacted] with personnel to operate 4 positions for one shift, 2 positions for one additional

shift, and one position for a third shift, and with receiver maintenance and transmitter maintenance.

	Add'l No. Required	Present T/O
Operator Technicians	15 *	(8 plus 6 blocked)
Teletype Operators Stationed at radio station. To operate teletype at radio stations which entails handling traffic [redacted] At least one operator will be on duty on each of two shifts seven days a week. Radio operator doubles as teletype operator on one shift.	4	(none)
Code Teletype Operators [redacted] To handle increase in administrative and intelligence traffic [redacted] In addition, to absorb normal staff traffic which has been on the increase and will continue to rise.	4	(15)

2. Surveillance and Sound Service

All stations are being equipped with recording devices, and most with surveillance equipment.

Officers [redacted]	1	(none)
Technician [redacted]	1	(none)

3. Training, Briefing and Coordination [redacted]

[redacted]

* Figure based on 40 hour normal work week, but with no formal allowance for sick and annual leave. Continued emergency would require increased personnel.

25X1 [redacted]

	Add'l No. Required	Present T/O
Radio Training Officer 25X1 [redacted]	1	(none)
Radio Training Officers 25X1 [redacted]	2	(none)
Briefing & Coordinating Officer, Radio 25X1 [redacted]	1	(none)
Crypto Officer Covers all three schools and all briefing and coordination delegating what duties he can to radio officer.	1	(1)
Crypto Officer Analysis and crypto plans. Stationed 25X1 [redacted]	1	(none)
Aide, Crypto, Distribution Clerk 25X1 [redacted]	1	(none)
Aide, Crypto, Distribution Clerk (Steno) 25X1 [redacted]	1	(none)

25X1 4. [redacted]

Radio Officer In charge of plans, technical contacts, training, and briefing.	1	(none)
Radio Officer Deputy to above to permit travel to cover all four countries.	1	(none)

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	Add'l No. Required	Present T/O
Technician To assist above, but chiefly to install and maintain sound and surveillance equipment in all four countries.	1	(none)
Crypto Officer To cover all four countries for crypto plans, training, control, security, and briefing, delegating routine duties to radio officer where possible.	1	(none)

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5. Main [redacted] Base

If this base is to be ready for an unexpected emergency, that is, able to meet an emergency in two to six weeks rather than six to eighteen months, the following must be done now:

(a) Fully install all equipment with antennas, power lines, and keying lines.

(b) Test same mechanically and electrically.

(c) Test radio functioning of station initially to determine noise levels and peculiarities of reception and transmission, such tests requiring 12 months for completion under all seasonal conditions.

(d) Test station once each week to check electrical and mechanical maintenance.

(e) Provide for service (and limited command) ciphers, and for secure storage of agent ciphers.

25X1 (f) Set up a technical radio command so that in effect radio [redacted] plans to be operated into this base are prepared and authorized only by this

25X1 base. This means that the officer in charge of the [redacted] base is in authority over the signal planning in Europe, especially during the period before his base is activated. This can probably best be accomplished initially by making Radio Officer,

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25X1 [redacted] CO of [redacted] base, and sending
25X1 his deputy physically to [redacted] As soon as an officer can be made available, the center of control should be transferred to Washington. It would be disastrous to put the coordination of all European signal plans upon a Washington officer who has any other duties whatsoever. The officer in charge wherever stationed, must be strictly a field officer, not involved in Washington administration.

To accomplish the testing and maintenance of North African base (excluding construction):

	Add'l No. Required	Present T/O
Radio Officer Deputy to CO [redacted] temporarily.	1	(none)
Operator Technicians To maintain transmitters and receivers and run one position tests at all periods of day and year.	11 *	(none)
Crypto Aide To act as security custodian of stored ciphers and to maintain limited Signal Center service.	1	(none)

Activation of this base for an emergency is cared for radio-wise by the presently allocated pool of operator-technicians if this pool is filled with men actually on duty and engaged in advanced training; and the existing Signal Center T/O, when filled, can absorb an immediate emergency.

Cryptographic Control, Planning, and Security Problems will at the moment of an emergency be extremely acute and there is no extant margin of personnel. Therefore, the Washington staff should be increased by the following, specifically earmarked for an emergency, and to be transferred upon an emergency to whatever headquarters are served
25X1 by the [redacted] base:

Crypto Control Officers	3	(none)
Crypto Security Aide	1	(none)

* Subject to revision based on actual physical, geographical, and security conditions. No provision has been made for personnel
25X1 [redacted] If conditions permit maximum efficiency at first base, a small crew can be detached for
25X1 the [redacted]

6. East

Situation so fluid that analysis must differ from other sections of this report. See Attachment D.

	Add'l No. Required	Present T/O
25X1 Needed most immediately [redacted] to salvage maximum of present operation:		
Operator Technicians	7	(7)
Crypto Control Officer	1	(none)
Crypto Aide	1	(none)
Teletype Operators	3	(none)
Code Clerks	3	(none)
25X1 Needed immediately [redacted]		
Radio Officer	1	(none)
25X1 Ass't Radio Officer [redacted]	1	(none)
Crypto Control Officer	1	(none)
Crypto Aide	1	(none)
Code Clerk	1	(4)
Operator Technicians	3	(none)
25X1 Needed immediately [redacted]		
Crypto Officer	1	(none)
25X1 Needed immediately [redacted]		
Radio Officer	1	(none)
Code Clerk	1	(1)
Operator Technician	1	(1)

7. Middle East ("MECA")

25X1 Reorientation [redacted] will require some additional personnel because a saving is now effected by having
25X1 the base at a heavy traffic station, [redacted]. Also the present serious need for a deputy to the Radio Officer will become acute at the time of a transfer of the base.

Radio Officer Deputy to OIC MECA	1	(1)
Operator Technicians Needed, in excess of what personnel can 25X1 be transferred from [redacted] to operate and maintain transmitters and receivers.	9	(10 plus 2 blocked for [redacted] which should be transferred 25X1 to [redacted]
Clerk	1	(1)

TOTAL ADDITIONAL OVERSEAS SLOTS TO BE FILLED IN 1949: 92

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8. Washington Departmental

See A above for personnel selection. Quantities repeated here:

	Add'l. No. Required	Present T/O
Officers	3	(none)
Clerk	1	(none)
Needed at once to establish broadcast transmitter program, specifically to process and control protective traffic (transmitter to remain on air 8 hours per day):		
Traffic Protective Officers	2	(none)
Crypto Aides	4	(none)
Needed at once for all types radio training, i.e. basic (uncleared), advanced, and intelligence, covert, surveillance, and sound:		
Radio Training Officers	6	(2)
Radio Training Technician	1	(1)
For planning and administration of radio nets:		
Officers This frees a training slot, now occupied by an officer occupied im net administration and maintenance	1	(2)
Technicians Assisting above officer	2	(none)
Fixed Station Engineering		
Planning Engineers Accelerate planning U. S. base station, survey and plan all new overseas stations and flying bases (plans must be completed for eight base stations immediately whether or not it develops that it is necessary to build all of these	5	(2 + 2 blocked)
Secretary-Steno		(1)

Inspection Unit

Besides the routine inspection of received equipment to insure that it meets contract terms in quality, quantity, and specifications; the inspection of covert equipment, much of which cannot be supplemented, and of unit stations packaged for immediate emergency use, requires the most painstaking and skillful inspection. This is far more exacting work than any corresponding work in the Navy, Army, or Air Corps, because of the enormously greater variety-to-quantity ratio , and the great number of irregular or "tailor-made" shipments:

	Add'l. No. Required	Present T/O
Radio Engineers	3	(2)
Engineering Aides	6	(3)
Clerk-Typist	1	(none)

Base Installation and Maintenance

Implementation of construction according to plans, and engineering responsibility for all major and general maintenance, and for test operation. Three such construction and maintenance crews required. (One crew allocated on present T/O):

Radio Engineers	12	(5)
Engineering Aides	2	(2)
Diesel Engineers	2	(1)

Development Unit

Outstanding urgencies are design, supervision of production of 15 special radio units for agent use and small base station use, all for peculiar CIA functions for which no military or commercial equipment exists. This work is underway, designs having been completed on 4 of the 15 units, but the program must be accelerated:

Radio Engineers	2	(9)
Engineering Draftsmen	2	(1)
Administrative Assistant		(1)
Clerk		(1 blocked)

	Add'l No. Required	Present T/O
Wire and Cryptographic Machines		
Present personnel fully occupied in meeting general CIA requirements. Needed for preparation and shipment of wire and crypto devices overseas for new OSO requirements:		
Engineers	1	(6)
Engineering Aides	3	(5)
Clerk		(1)
Office of Chief, Engineering Section		
Engineers		(2)
Secretary		(1)
Cryptography - Development of Cryptographic Systems		
Required for development and testing of new systems and adaptation for miscellaneous foreign languages. Requires detailed working with linguists to insure systems will meet requirements of language and exhaustive study of proposed system to determine and eliminate weaknesses, and possible points of enemy attack. Closely coordinated with Army Security Agency:		
Officers	2	(none)
Aides	1	(none)
Traffic and Physical Security Group		
Required to insure communications security of expanding CIA electrical communications:		
Officers	2	(6)
Aides	1	(1)
Crypto Materiel, Traffic, and Facilities		
Required to meet ever increasing cryptographic needs of CIA:		
Officer	1	(none)
Aides	5	(7)
Instruction		
Essential to train increasing personnel:		
Officers	3	(4)
Aide	1	(1)
TOTAL ADDITIONAL DEPARTMENTAL	75	

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C. PERSONNEL 1950-1951

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The 1949 Personnel Program calls for building up the present [redacted] base and for a skeleton crew at one emergency base outside the European danger zone. It makes no provision for any of the other three stations which we should have in the Western Mediterranean and Atlantic. It calls for a movement of the Middle Eastern base from politically insecure

25X1 [redacted] but makes no provision for putting the Middle Eastern Net in shape to meet any emergency. It provides only for the initial coordinating and training steps in unoccupied Western Europe. It makes provision only for the salvage and reorientation of existing Far Eastern

25X1 operations plus a token recognition of the new demands [redacted] but makes no provision for building up a sound Far Eastern Communications System. In short, it partially meets the demands represented as "Immediate" in the COPS memorandum of 8 November 1948, and ignores the COPS needs listed as "Pending" and "Future". Therefore, in 1950-1951, we need:

	Add'l No. Required	Present T/O
1. To put Middle Eastern Net on an emergency basis with possible 24-hour service from the base station, and relief operators for out stations:		
Operator Technicians	11	(none)
Crypto Aide	1	(none)
25X1 2. [redacted] Base		
Radio Officer	1	(none)
Crypto Officer	1	(none)

These officers willbe needed both in Europe and Africa as organizers and in Washington as training officers. Before an emergency occurs, they would be used where most gravely needed. Upon an emergency, the Radio Officer would either take command of the radio station

25X1 [redacted] or relieve a European radio officer who would take that command. The crypto officer would be stationed at the headquarters serviced by

25X1 the [redacted] radio base.

3. Radio Pool

Each completely trained CIA radio operator-technician has skills covering the equivalent of six military classifications:

(1) high speed manual operator
(2) high speed machine operator
(3) radio maintenance
(4) TTY and RTTY maintenance
(5) high speed cryptography, and also when possible, special cryptography
(6) gasoline and Diesel engine maintenance

In addition to this, those showing aptitude are given special courses in radio intelligence, and in general intelligence and administration. In practice, it is impossible to find men with more than two to four of these skills. Therefore, completely trained men are rare, and nearly every employee needs from six months to two years additional training.

A pool of proven trustworthy and able personnel can accomplish the double purpose of an advanced training school and a safety supply for an emergency. Therefore, it is proposed, insofar as possible, to keep all emergency bases down to the lowest possible skeleton staffs, and to back them up by the personnel in the Pool or advanced training school.

Technical considerations call for a total of five bases on the peripheral of Europe, and political and strategic considerations for two additional large bases so packaged or mounted as to be immediately transportable, with personnel, by air and put into immediate operation. Of these seven, two are accounted for under Middle East and the provisions for the main [redacted] base. Counting on some one of the remaining bases not being activated, we need to provide personnel for four additional bases. Counting a skeleton crew at the fixed bases as 11 and for the flying bases as 10, we arrive at:

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	Addl No. Required	Present T/O
Pool		
Operator Technicians for skeleton crews at 4 bases on periphera of Europe	42	(25)

Note: For a measuring stick, an Army or Navy T/O for a base station of the kind we plan [redacted] would be between 80 and 120 operators and technicians, or an overall total of between [redacted] against our [redacted] stations. We have reduced our figure by the following processes:

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(1) Assuming a top T/O for each large station of 42 carefully selected men who do double or treble duties, such as trebling on receiver-maintenance, transmitter-maintenance, and engine maintenance.

(2) Assuming a transfer of some of the 29 assigned to the [redacted] base, and in dire emergency, a transfer from South America.

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(3) Assuming that some of these stations will remain small, and that not more than one will reach full size prior to the effectiveness of an emergency (Wartime) recruiting program.

(4) Assuming that, if it is possible to build all five fixed stations, at least one of the air-transportable stations will not be needed at the outset of an emergency.

(5) Assuming an early, heavy mortality of stay-behind operations which will reduce the load before the increase due to a state of war has become severe.

(6) Assuming an end to the 40 hour week restriction upon the beginning of an emergency.

4. Signal Center Reserves

The Signal Center is slightly more easily stocked in an emergency. Therefore, it calls for a pool consisting of two groups specifically earmarked for each of two of the seven possible bases, and makes provision for either of these bases becoming very large, for the other five bases, and for other unforseen contingencies, with a third, or unspecified pool:

	Add'l No. Required	Present T/O
25X1 Main [redacted] Base		
Signal Center Officers	3	(none)
Clerks	27	(none)
Second Base for Europe		
Signal Center Officers	3	(none)
Clerks	27	(none)
Unspecified Pool		
Clerks	49	(none)

The Signal Center having made no immediate provision for the Northern Mediterranean or for unoccupied Western Europe, also adds to its pool:

25X1 [redacted]		
Clerks	5	(none)
25X1 [redacted]		
Clerks	5	(none

5. Far East

25X1 See Attachment D on Far East. Plans include re-orientation on a base [redacted] and a very extensive development in Southeastern Asia. In order not to repeat our present deplorably inadequate performance in the Far East, we should recruit for the Far East:

	Add'l Required	No. Present T/O
Radio Officers	4	(none)
Crypto Control Officers	2	(none)
Signal Center Officers	4	(none)
Operator Technicians	47	(none)
Code Clerks	62	(none)

25X1 6. Training, Briefing, and Coordination [redacted]
25X1 [redacted]

Operations are actually being mounted now in these countries. Required:

25X1 [redacted]

Radio Officer	1	(none)
Crypto Officer (also serving Greece)	1	(none)

25X1 [redacted]

Radio Officer	1	(none)
Technician	1	(none)

These two men are supposed to handle all planning, coordination, briefing, training, as well as a monitoring program. The figures are put down here under the assumption that emergency help may be obtained from MECA or Tripoli.

25X1 7. Additional Crypto Control Support [redacted]

Cryptographic Control Officer	1	(none)
Crypto Aide	1	(none)

25X1 8. Crypto Control [redacted]

Crypto Aide	1	(none)
TOTAL ADDITIONAL OVERSEAS - 1950-1951	301	

9. Washington Departmental

Manufacturing Section

25X1 Careful investigation of [redacted] equipment advantages during the World War II established that we were

suffering from a severe disadvantage resulting from our practice of farming out small contracts to commercial factories who could not be made to understand our needs without grave security breaches, and also resulting in a multiplicity of models which placed an unreasonable burden on our field officers responsible for training and preparing foreign language instructions. It has, therefore, been recognized by everyone that we should undertake some of our own manufacturing which we can do at less cost to the Government since commercial firms charge exorbitantly on small orders:

	Add'l. No. Required	Present T/O
Engineers	4	(none)
Engineering Aides	4	(none)
Machinists	4	(none)
Machinists Aides	2	(none)
Clerk	1	(none)

Operations Staff

Estimates for 1949 call only for filling immediately urgent officer slots in training and selection of personnel and radio net administration. Clerical help, which does not have to have special qualifications, are not listed under urgent, but are listed below, together with additional technical help:

Radio Technicians	16	(2)
Clerks	15	(3)

Washington Base Radio Station

Present T/O is considered adequate if one officer is added to make it possible to secure proper administrative personnel for both receiver and transmitter station.

Officer	1	(1)

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Cryptography

Signal Security Control Section, Office of Chief

To provide necessary additional staff to handle increased workload:	Add'l. No. Required	Present T/O
Officers	2	(2)
Aide	1	(3)

25X1

[redacted]

Officers	2	(none)
Aides	4	(none)

Cryptographic and Signal Security Training:

Officers	6	(none)

Procurement, Distribution, and Accounting for Ciphers, and Traffic Statistics:

Officers	5	(none)
Aides	8	(none)

Signal Center, Washington

To handle very much increased Washington traffic and to provide security segregation for OSO traffic:

Officers	4	
Typists	4	
Editors	4	(74 & 11
Code Clerks	19	blocked)
Teletype operators	6	
Traffic Control Clerks	3	
TOTAL ADDITIONAL DEPARTMENTAL - 1950-1951	115	

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NOTE: The above listing does not include all present Communications activities and personnel. It reflects only those for which increases are required. The total of the figures in parenthesis will therefore not balance with the total of 314 stated in the text.

V. MATERIEL AND FACILITIES REQUIREMENTS

1. Expenditures for Equipment (1949-1951)

All receivers and transmitters.....	$5,313,000.00
Five radio stations, Class A, @$313,600.....	1,568,000.00
140 radio stations, Classes B,C,D.....	171,000.00
Special Containers and Air packaging for classes B,C,D.....	65,000.00
Special Containers for two large flying bases plus installation.....	325,000.00
	$7,442,000.00
Less equipment on hand and useable for same purposes.....	635,900.00
GRAND TOTAL.....	$6,806,100.00

2. Lease of Commercial Transmitter

Lease of commercial transmitter and keying lines.....	$2,300.00 (per month)

3. Training Area

A training area capable of handling 75 students with segregation of Cleared and Uncleared Personnel.

25X1

Assistant Deputy
Special Operations

ATTACHMENTS A
B
C
D

SECRET

4A-30
8 November 1948

MEMORANDUM

TO: Chief, COMMO.

SUBJECT: Estimate of Operations Requirements for Communications.

1. The attached represents a fair estimate of present and projected Operations commitments and the COMMO requirements that they entail.

2. Operational programs are grouped in order of relative priority under three classes of urgency: Immediate, Pending, and Future Projects. All programs listed have been discussed in detail with COMMO officers either directly or in the course of a series of meetings held recently with the various Foreign Branches.

3. Other Operations requirements relevant to COMMO, such as electrical surveillance, equipment for support stations, and research and development, are not included in this paper. They will be covered in subsequent studies.

25X1

[redacted]

Attachment
Estimate of Opers.
Reqmts. for Commu-
nications.

I. IMMEDIATE.

25X1 A. Expansion of COMMO facilities [redacted]

1. Agent circuits.

25X1 a. Preparation and handling of from [redacted] agent circuits.

(1) Training and preparation of agent personnel.
(2) Traffic handling.

b. Target areas:

25X1 (1) [redacted]
(2)
(3)
(4)

2. Stay-behind* circuits.

a. Training of personnel and preparation of operating plans.

25X1 b. [redacted]

25X1 (1) Up to [redacted] to be prepared.
(2) Personnel for 3 circuits now in training.
25X1 (3) To operate into COMMO [redacted]

25X1 c. [redacted]

d. [redacted]

3. Increase in staff communications* traffic.

B. Emergency COMMO Base outside Europe.

1. One base to be established initially.

25X1 a. For use in case COMMO base [redacted] becomes inoperative.
25X1 b. Location in [redacted] area recommended.

25X1 2. Salvage* planning for active [redacted] circuits.

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*Definitions:

1. Salvage - Reorientation of existing intelligence circuit to work into emergency base, in case the base with which it is in contact becomes inoperative.

25X1 [redacted]

3. Staff communications - Administrative and operational traffic; in contrast to agent traffic.

25X1 I. [redacted]

D. Field survey of North-East Asia.

1. Survey of communications requirements at stations in North-East Asia:

25X1 a. [redacted]
b.
c.

2. First-hand appraisal of technical communications requirements of:

a. Operational plans in area.
25X1 b. Evacuation and Salvage plans [redacted]

3. Preparation for coordinated COMMO organization throughout North-East Asia.

25X1 4. Appointment of chief COMMO officer [redacted]

25X1 E. Clandestine Operations Base [redacted]

1. COMMO requirements for the Base.
2. Selection of COMMO personnel for training and operating purposes.

F. "Blind" Broadcast Transmitter to Europe.

1. Establishment of transmitter in U.S. to broadcast continuous "blind" signals to Europe:

a. To establish permanent CIA transmitter for ultimate use in activating agent circuits.

b. For testing effectiveness of U.S.-to-Europe communications.

25X1 c. For morale purposes, [redacted]

2. Preparation for two-way clandestine communications.

a. Messages to agents from the U.S. by the "blind" station.

25X1 [redacted]

II. PLANNING.

A. Establishment of Main COMMO organization for Far East.

25X1 1. Main COMMO Base

a. For agent communications throughout -

(1) North-East Asia.
(2) South China and Malaya.
(3) Netherlands East Indies.

b. Base for stockpiling COMMO equipment.

2. Far East COMMO organization.

25X1 a. Headquarters at Main Base

b. Other bases -

25X1 (1)
(2)
(3)

c. Division of agent traffic responsibilities between Main Base and other bases.

d. Coordination of staff communications traffic.

e. Adequate facilities for agent training and preparation.

25X1 B. Operations:

25X1 1. Joint project

a. Establishment of adequate communications for Counter-Intelligence Corps.

25X1

4. Expansion of staff communications facilities.

25X1 C. Operations

25X1 1. Communications officer

25X1 a. To train staff personnel.
b. To supervise training and preparation of agents.

2. Establishment of internal communications for Directorate.

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II. C. 3. Preparation of agent operations into target areas.

a. Planning communications procedure.
25X1 b. Base station

25X1

25X1 D. Operations

Training and preparation of possible agents and radio operators to be
25X1 infiltrated

25X1 E. Operations with

25X1 1. Technical coordination of communications plans
25X1
25X1

F. Alternate Emergency COMMO Base outside Europe.

1. Preparation of alternate base separate from principal COMMO base recommended in I. B above:

25X1 a. To handle non-U.S. agent circuits nature in interim period immediately following outbreak of emergency conditions.

b. Unlike principal COMMO base, to be available to non-U.S. technical personnel.

2. This base is to be used until separate equipment can be provided for the individual foreign intelligence service which will require them.

25X1 G. Emergency Planning

1. Coordination of signal and operating plans.
25X1 2. Preparation for communication
25X1 3. Development of plans for up to
25X1

H. Reorientation of Middle East Communications (MECA).

25X1 1. Alternate, geographically more secure, base location
2. Alleviation of personnel shortage.

III. FUTURE PROJECTS.

25X1

25X1 III. C. Communications [redacted]

25X1 D. Operations in [redacted]

25X1 1. Radio-equipped agents - [redacted]
2. Small base station.

E. Operations in Southeast Asia.

25X1 1. [redacted]

25X1 With further deterioration of the situation [redacted] may become the center of Southeast Asia operations. Possibly cooperative
25X1 arrangements will be negotiated with [redacted] who have war-time trained radio operators, also equipment.

25X1 2. [redacted]

b. Planning still tentative.

25X1 F. [redacted] Communications [redacted]

25X1 1. Support to [redacted] in organizing communications
25X1 [redacted]

2. Training of personnel and coordination of plans.

25X1 G. Emergency staff communications base [redacted]

H. Additional Communications Bases:

25X1 1. [redacted]

a. To cover Middle East, Balkans, Black Sea area.
b. For pre-hostilities as well as war use.

25X1 2. [redacted]

25X1 Auxiliary base for European [redacted] circuits and agent operations.

25X1 3. [redacted]

Auxiliary war-time base for European agent circuits.

25X1 I. Development [redacted]

25X1 J. [redacted]

K.

25X1 III. L. Forward base [redacted]

1. Operations to target area.
2. Staff communications point.

M. Inter-station emergency communications in Southeast Asia.

1. To connect the following stations:

25X1

a. [redacted]
b.
c.
d.
e.

2. Staff communications traffic.

ATTACHMENT B
PRACTICAL CALENDAR

BEGINNING DATE	DESCRIPTION	COMPLETION DATE
December, 1948	Set up recruiting principles, procedures, and machinery, and remove processing bottlenecks. Required in COMMO - 3 slots.	December, 1948
January, 1949	Recruiting for IMMEDIATE only, for both Overseas and Washington support, and establishment of slots (to insure flexibility for both IMMEDIATE and PENDING.)	June, 1949
January, 1949	Survey African base sites. If further favorable answers are received from [redacted] it will also be necessary to survey this site.	January, 1949
January, 1949	Stockpiling of materiel for IMMEDIATE, PENDING, and FUTURE, which can be both more efficient and more economical if authorized en masse on a basis of three years' needs, or to an extent sufficient to provide skeleton materiel for the first six months of hostilities. Under FUTURE, however, no materiel should be stockpiled which is likely to become obsolete within ten years.	January, 1952
February, 1949	Blind CW broadcast transmitter to maintain one-way communications with, and thus control over, agents in case of the severance of other and non-electrical communications, prior to building of [redacted] and Atlantic bases.	February, 1949
June, 1949	Train base station operators. Construct one or more flying bases. Construct one [redacted] base.	December, 1949
[redacted]	[redacted]	December, 1949

25X1
25X1
25X1
25X1

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BEGINNING DATE	DESCRIPTION	COMPLETION DATE
June, 1949	Packaging stockpiled equipment for small stations, etc.	December, 1949
	First significant acceleration of training, briefing, and coordinating activities overseas.	December, 1949
January, 1950	Dispatch of personnel according to priorities as they then appear.	June, 1950

CONCLUSION: According to this program, most IMMEDIATE demands can be reasonably well met by June, 1950. The most significant date is, however, June 1949, when on the basis of personnel on hand for training, commitments could begin.

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